

# Large Broad Ligament Leiomyoma

\* Prof. Dr. Gajanan R. Ekbote, Abhijit Powar, Namrata Joshi

\*Prof. of Surgery, B. J. Medical College, Pune 411001.

## Abstract :

*Broad ligament is very uncommon site for presentation of leiomyoma. On account of their size and nature, clinically they may present variably. We are presenting a rare case of leiomyoma of broad ligament in 35 years old premenstrual female who presented with complains of lump in abdomen. On clinical and radiological examination it was found to be large cystic intrabdominal mass suspected to be a mesenteric cyst and confirmed histopathologically as leiomyoma of broad ligament. We present this case on account of its rarity, diagnostic difficulties posed and its successful removal through small incision after laparoscopic mobilization.*

**Key words** – Broad ligament, leiomyoma

## Introduction :

Among extrauterine leiomyomas broad ligament are the most common to occur (1). Due to unusual location and growth pattern was difficult to diagnose both clinically and radiologically(2). This is one case of broad ligament leiomyoma presented as lump in abdomen.

## Anatomy :

Broad ligaments are specialized series of peritoneal folds. During embryonic developments the paired mullerian ducts & ovaries arise from lateral abdomipelvic wall. As they migrate towards mid line a mesentery of peritoneum is pulled out from pelvic wall from the cervix on up. This leaves the midline uterus connected on either side pelvic wall by double layer of pelvic wall by double layer of peritoneum .Within upper layer of these folds called broad ligaments lie fallopian tubes, round ligaments & ovaries. The cardinal & uterosacral ligaments are at lower margin .These structures are visceral therefore composed of smooth muscle cells, vessels and connective tissue (3). Leiomyoma can arise from smooth muscles of uterus that can invade the broad ligament called parasitic leiomyoma or it can also originate from the broad ligaments itself (4).

## Case Report

A 35 years old para 5, living 5 female came to OPD of Sassoon Hospital with chief complaints of lump in abdomen since 15 days with history of early satiety and vomiting since 5 days.

No H/o urinary complaints and her menses were normal

There was no history of similar complaints in family.

On examination, a middle aged lady of average build and nutrition with no pallor and lymphadenopathy with vitals stable. Her systemic examinations normal. On per abdominal examination, her abdomen was soft distended. Large ill-defined non tender mass approximately 20 X 10 cm. extending from epigastrium to pelvis was palpated. No shifting dullness was present.

**Per Speculum** examination revealed normal cervix and vagina

**Per Vaginal** examination was normal and there was no obliteration of pouch of Douglas. Her hemogram and routine blood investigations were normal.

**On ultrasonography of abdomen and pelvis** there was a cystic lesion 22 X 16 cm. with multiple septate within it. Lesion was separate from pancreas, uterus and colon ? mesentric cyst.

**On Abdomen and pelvis** 25 X 22 X15 cm. well defined cystic abdomino-pelvic mass with multiple septate extending anterior to anterior abdominal wall, laterally abutting bowel loops, superiorly till inferior surface of right lobe of liver and greater curvature of stomach and inferiorly till anterior aspect of uterus and superior surface of urinary bladder.

## Tumor Marker

CA 125 – 13.6 U/ml (< 35)

CEA – 1.65 ng/ ml (< 3.80)

## Management

With probable diagnosis of mesentric cyst, patient was taken up for laparoscopic removal of cyst which showed single cyst of around 25 X 20 X 15 cm. in the abdominal cavity not attached to anterior abdominal wall, any solid or hollow viscera. It was attached to broad ligament of uterus towards left side in posterior aspect. Uterus, left ovary, fallopian tubes were normal. Cyst was mobilized laproscopically, pedicle was clamped and coagulated with harmonic shear. With the help of trochar inserted along the left anterior axillary line in left lumbar area, a suction canula inserted and pierced in the cyst to aspirate its contents. As cyst was multiloculated, it was not possible to aspirate all its contents, so a 5 cm. pfannelstrial incision was taken for its removal. Cyst was removed en block through it with hand assisted technique and weighed approximately 5 kg.

Patient tolerated the procedure well, sutures were removed on 10<sup>th</sup> postoperative day and was discharged

### Histopathology examinations

**Gross :** Huge cystic mass of 20 X 15 X 10 cm. with externally bosselated pinkish white appearance with thick wall. Cyst was completely filled with mucoid material.

**On microscopy :** Tumor made of spindle shaped cells arranged in fascicles showing interlacing bundles of

tumours are rare. Among the mesenchymal tumours, the most common one is leiomyoma (8). It has been suggested that leiomyomas which are adherent to broad ligament, originate from hormonally sensitive smooth muscle elements of broad ligament itself. Leiomyomas commonly present as menstrual disturbances, reproductive dysfunctions and pressure



smooth muscle with myxoid degeneration.

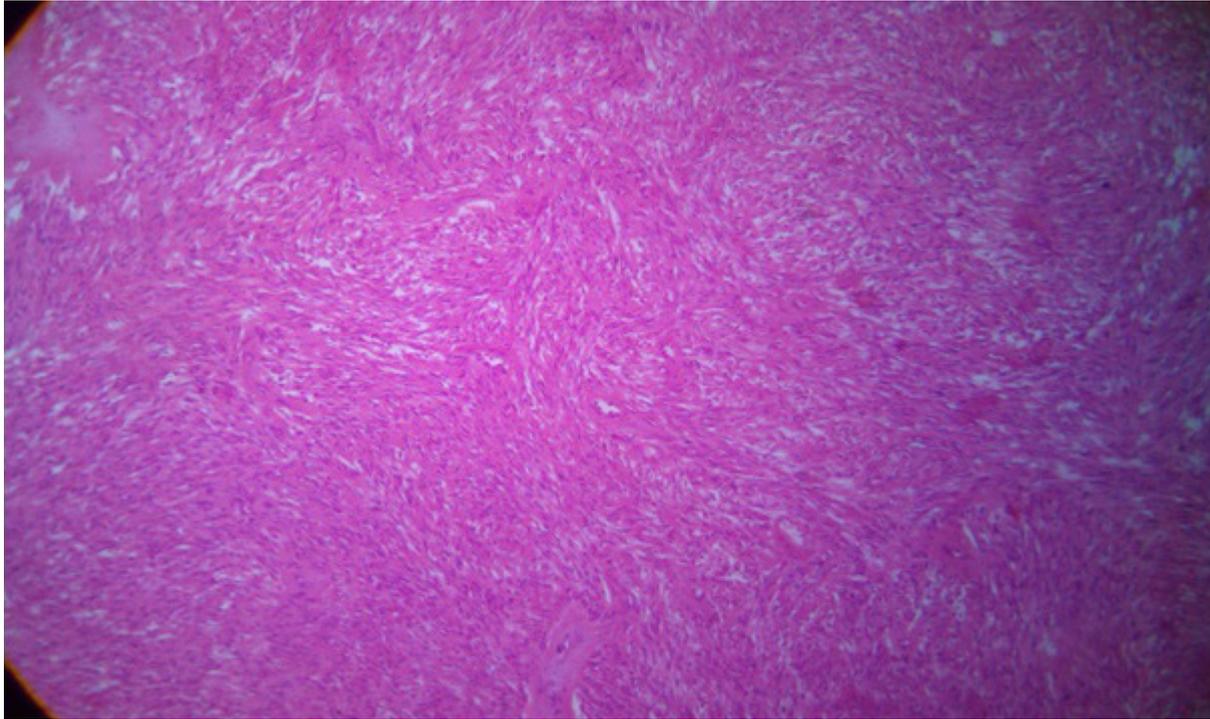
**Impression :** Leiomyoma of broad ligament with myxoid degeneration.

### DISCUSSION :

Leiomyoma is benign smooth muscle tumor with genetic predisposition. Although uterus is the most common site of origin, they may develop at any site where smooth muscle cells are found. They affect 30% of all reproductive age group women(5) and are commonly intramural, subserosal, submucosal and cervical. Many women develop leiomyomas as they grow older. In one study, the prevalence of US-identified tumors ranged from 4% in women aged 20–30 years to 11%–18% in women aged 30–40 years and 33% in women aged 40–60 years (6). But they are not uncommon in round ligament, broad ligament and ovaries(7). Epithelial tumours are the most common broad ligament tumours, whereas mesenchymal

symptoms like bladder and bowel dysfunctions. These undergo secondary changes which include degeneration, infarction, necrosis, haemorrhage and they rarely show sarcomatous changes. Broad ligament fibroids are associated with pseudo-Meigs syndrome and they can produce elevated cancer marker CA-125 levels, leading to diagnostic confusion with metastatic ovarian carcinoma.

Physical examination and pelvic imaging are the main modalities for diagnosis of leiomyomas. Radiologically, vessels bridging the mass and myometrial tissue, which is termed as 'bridging vessel sign', is helpful in diagnosis of leiomyoma. Myxoid and calcific degenerations are the most common degenerative forms which are observed in leiomyomas. Cystic degeneration is considered as an extreme sequel of oedema in leiomyomas with degenerative changes and its incidence has been reported to be as 4% (9). No relationship has



*Microscopic examination revealed interlacing bundles of smooth muscle cells.  
(Hematoxylin & Eosin x 10x)*

been identified between the clinical symptoms and incidences of degenerative changes (10). In the present case, the leiomyoma underwent myxoid degenerations. Two cases of broad ligament leiomyomas with myxoid and cystic degenerative changes have been reported from India (11, 12). Asotra et al., (11) have reported neurilemoma like patterns in broad ligament fibroids. Buckshee K et al. (13) reported an unusual and rare case of broad ligament leiomyoma with massive ascites and bilateral pleural effusion.

Incidence of malignant transformation of leiomyomas has been reported to be very low ranging 0.13 between 0.80 (14). They are known to recur and incidence of subsequent surgery for leiomyoma following its removal is 5% per year (15)

Organ	Incidence
1) Broad ligament	<1%
2) G.I. Tract (Stromal tumours)	0.2%
➤ Gastric	
➤ Small bowel	
➤ Rectal	
➤ Colonic	
3. Urinary bladder	250 cases till now
4. Urethra	120 cases till now
5. Vulva	<120 cases till now
6. Ovaries	75 cases till now
7. Intravenous leiomyomatosis	150 cases till now
8. Benign metastasizing leiomyoma	120 cases till now

Table No :1 (16, 17, 18)

In our case, patient presented with large lump in abdomen which was removed successfully after laparoscopic mobilization and histopathology

confirmed it as broad ligament leiomyoma. Degenerative changes in leiomyoma occur due to inadequate blood supply and leiomyoma in our report had undergone myxoid degeneration.(19,20)

### **Conclusion :**

Diagnosis of broad ligament leiomyoma is difficult owing to its rarity and unusual clinical and radiological presentation. Even being uncommon, it can grow to large size as exemplified in this case and can undergo degenerative changes even at extrauterine location.

### **References:**

1. Bhatla N. Tumours of the corpus uteri In: Jeffcoats Principles of Gynaecology 6<sup>th</sup> edn. Arnold Printers London; 2001: p4702.
2. Large leiomyoma of broad ligament- Journal of Medical Allied Sciences 2013; 3(2): 85-87
3. Te Linde's Operative Gynaecology 10<sup>th</sup> edn. page 91
4. Bardawil T, Chelmow D. Broad ligament disorders, Medscape reference Updated 5th March 2011.
5. Parker WH. Uterine myomas: an overview of development, clinical features and management. Obstet Gynecol 2005; 105: 216-7
6. Lurie S, Piper I, Woliovitch I, Glezerman M. Age-related prevalence of sonographically confirmed uterine myomas. J Obstet Gynaecol 2005; 25: 42-4.
7. Jonathan S Berek. Benign Diseases of the Female Reproductive Tract. In Novak's Gynaecology 13<sup>th</sup> edn. Lippincott Williams & Wilkins, Philadelphia; 2002: pp 380
8. Thor AD, Young RH, Clement PB. Pathology of fallopian tube, broad ligament, peritoneum and pelvic soft tissues. Hum Pathol. 1991; 22: 856-67.
9. Low SC, Chong CL. A case of cystic leiomyoma mimicking an ovarian malignancy. Ann Med Singapore. 2004; 33: 371-4
10. Yuel VI, Kaur V. Broad ligament fibroid: An unusual presentation. J K Sci. 2006; 8: 217-8.
11. Asotra S, Kaushik R, Gulati A. Broad ligament fibroid with neurilemmoma like pattern. J K Sci. 2009; 11: 215.
12. Godbole RR, Lakshmi KS, Vasant K. Rare case of giant broad ligament fibroid with myxoid degeneration. J Sci Soc. 2012; 39(3): 144-46.
13. Buckshee K, Dhond AJ, Mitthal S, Bose S. Pseudo-Meigs' syndrome secondary to broad ligament leiomyoma: a case report. Asia Oceania J of Obstet Gynaecol 1990; 16(3): 201-205.
14. Gynaecologic pathology- Mansa Nucci, Esther Oliva
15. J. Womens Health (Larchmt) 2006, Nov. 15(9): 1046-5212
16. Leiomyoma beyond the uterus, Radiographics Vol 28 Issue 7 pages 1931-1948
17. Maingot's abdominal operations 12<sup>th</sup> edn. pp 619
18. Sabiston Textbook of Surgery 19<sup>th</sup> edn. pp 1257
19. Two Unusual Clinical Presentations of Broad Ligament leiomyomas : Medicina (Kaunas) 2012; 48(3): 163-5
20. Broad ligament fibroid - An Unusual presentation, JK Science Vol 8, No 4, October-December 2006.